Name: _____

pb1030: FOIL expansion of product of linear binomials (v5)

The acronym FOIL stands for "Firsts, Outsides, Insides, Lasts". The FOIL method is often used to expand a product of two linear binomials. It reminds us that when we multiply two binomials, we need to add together all four possible products between the terms within each factor.

For example, let's expand the following expression: $(2x + 5) \cdot (3x + 4)$.

Firsts= $6x^2$

Outsides= $8x$

Insides= $15x$

Lasts= 20

Notice, the outsides' product and the insides' product are both linear, so we can combine the like terms to get our expanded expression (in standard form).

$$6x^2 + 23x + 20$$

Use FOIL to expand the following products of linear binomials.

Question 1

Expand the product of linear binomials. $(x - 2)(x - 9)$

Question 2

Expand the product of linear binomials. $(-9x - 9)(-5x + 7)$

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Question 3

Expand the product of linear binomials. $(x+5)(x+5)$

Question 4

Expand the product of linear binomials. $(-9x+6)(5x+3)$

Question 5

Expand the product of linear binomials. $(x-7)(x+6)$

Question 6

Expand the product of linear binomials. $(2x+9)(4x+8)$